



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,430	04/03/2001	Tadashi Takano	SIMTEK6140	4775
25776	7590	04/26/2004	EXAMINER	
ERNEST A. BEUTLER, ATTORNEY AT LAW 10 RUE MARSEILLE NEWPORT BEACH, CA 92660			PHAM, LEDA T	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,430

Applicant(s)

TAKANO, TADASHI

Examiner

Leda T. Pham

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “related machine housing” and the “related machine shaft” in claim 1; the “sleeve type bearing” in claim 20, 23, 30, and 33; and “the cylindrical post is detachably connected to the second end closure” in claim 22 and claim 32 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: in the specification and drawing, the “related machine housing” and the “related machine shaft” do not describe to support for claim 1. Appropriate correction is required.

Claim Objections

3. Claims 1, 26 –27 are objected to because of the following informalities:

Art Unit: 2834

In claim 1 line 4 – 5, and claim 27 line 4, “said first end closures” should be change to -- said first end closure--.

In claim 7, “the plurality of field cores are” should be change to –the plurality of field cores is--.

In claim 26 line 3, “the associated rotating machine” lacks of antecedent basis.

In claim 27 line 6, “an cylindrical” should be change to – a cylindrical--

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 1, the “related machine housing” and the “related machine shaft” do not describe in the specification and the drawing.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In those claim, the term “extending through” is indefinite because in the specification and the drawing, the rotor does not extending through the first end closure (see all the figure). According to the specification the driving shaft portion only extending into a cavity form in the first end closure.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 – 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (U.S. Patent No. 5,876,298).

Referring to claim 1, Kato teaches a DC rotating electrical machine (figure 1) comprised of an outer housing (2) forming a stator (25) of said rotating electrical machine, said outer housing being comprised of a generally cylindrical center section (the part outside the core stator 25) and affixed first and second end closures (the part attach to end shaft 22 and bearing 24, and the housing portion contain gear 42), a rotor (21) journaled within said outer housing and having an end portion extending through said first end closures (shaft 22 extending through bearing 23 and the housing portion containing gear 42) for driving connection to a related rotating machine (generator 1), said related rotating machine comprising a related machine housing (the housing

Art Unit: 2834

where voltage regulator 16, and rectifier 17 mounted on) journaling a related machine shaft (12) driven by said rotor end portion, said first end closure having an axially extending wall portion extending beyond said first end closure and forming a cavity in which a substantial portion of said related rotating machine is contained (the portion where the shaft 12 connecting with the gear 42).

Referring to claim 2, Kato teaches a third end closure (10) is affixed in closing relation to the cavity of the first end closure for containing the related rotating machine (1) within the cavity of said first end closure.

Referring to claim 3, Kato teaches the first and second end closures are axially spaced from each other and the second end closure is integrally formed with an axially extending cylindrical center section (figure 1).

Referring to claim 4, Kato teaches the first end closure is in abutting relation to the axially extending cylindrical center section (figure 1).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato as applied to claim 1 above, and further in view of Nakanura et al. (U.S. Patent No. 5,235,228).

Referring to claim 5, Kato teaches the claimed invention, except for the added limitation of the first end closure is axially spaced from the axially extending cylindrical center section.

Nakanura teaches the DC rotating electrical machine (figure 1) having a first end closure is axially spaced from the axially extending cylindrical center section (space by 18, figure 1) for balancing a structure of electric motor.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato's rotating electric machine with the end closure as taught by Nakanura. Doing so would provide a balancing electric motor.

Referring to claim 6, Nakanura teaches the stator made up a plurality of field coils (fig.1).

Referring to claim 7, Nakanura teaches the plurality of field coils is wound around a laminated core (figure 1).

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kato and Nakanura as applied to claim 7 above, and further in view of Hoda et al. (U.S. Patent No. 6,22,715 B1).

Referring to claim 8, the combination of Kato and Nakanura refs. teaches the claimed invention except for the added limitation of the lamination core is exposed between the first and second end closures.

Hoda teaches a construction of a motor with a built-in sensor (figure 1) having a stator (2) with the lamination core is exposed between the first (25) and second end closures (10) for decreasing the length of the motor.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lamination core of the stator in the DC rotating electrical

machine as taught by Hoda. Doing so would decrease the length of the motor and make the motor lighter.

13. Claims 9 – 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato as applied to claim 1 above, and further in view of Takano (U.S. Patent No. 6,680,553 B1).

Referring to claim 9, Kato teaches the claimed invention, except for the added limitation of the DC rotating electrical machine is brushless.

Takano teaches in his invention a rotating electrical machine with DC brushless for producing a higher output more efficiently and avoiding the noise and sparking.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the DC rotating electrical machine with brushless as taught by Takano. Doing so would produce a higher output and avoid the noise and sparking.

Referring to claim 10, Takano teaches the DC rotating electrical machine further including a sensor (43) contained within the outer housing for sensing the rotational position of said rotor (figure 1).

Referring to claim 11, Takano teaches the stator made up a plurality of field coils (fig.1).

Referring to claim 12, Takano teaches the DC rotating electrical machine wherein a controller (printed circuit board) responsive to the output of the sensor switches the polarity of the field coils (lines 15 – 17, column 2).

Referring to claim 13, Takano teaches the controller (PCB) is mounted on the interior of the DC rotating electrical machine (figure 1).

Referring to claim 14, Takano teaches the controller (PCB) is mounted axially between the first (15) and the second (16) end closures.

Art Unit: 2834

Referring to claim 16, Takano teaches the controller (PCB) is mounted on the interior of the DC rotating electrical machine. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the controller mounting on the exterior of the DC rotating electrical machine as recited in the claim, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kato and Takano as applied to claim 9 above, and further in view of Kikuta et al. (U.S. Patent No. 5,053,664).

Referring to claim 15, the combination of Kato and Takano refs. teaches the claimed invention except for the added limitation of the controller is mounted in a cylindrical member interposed between the first and second end closures.

Kikuta teaches a motor having a controller (PCB inside control circuit case) mounted in a cylindrical member (128) interposed between the first and second end closures (130, 138) for preventing overheat the controller.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the DC rotating electrical machine with the controller mounting in a cylindrical member as taught by Kikuta. Doing so would prevent overheat the controller.

15. Claims 17 – 19, 26 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato as applied to claim 1 above, and further in view of Shimizu et al. (U.S. Patent No. 6,163,093).

Referring to claim 17 and claim 27, Kato teaches the claimed invention except for the added limitation of the second end closure carries a cylindrical post extending into a cylindrical opening in the rotor for journaling said rotor within the outer housing.

Shimizu teaches a pump actuation motor having a second end closure (15) carries a cylindrical post (15a) extending into a cylindrical opening in the rotor (12a) for supporting the end side of the rotation shaft (figure 2).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the end closure of the housing as taught by Shimizu. Doing so would increase in the assembling efficiency by decreasing in the quantity of the parts and enhancement of the durability.

Referring to claim 18 and claim 28, Shimizu teaches the cylindrical post (15a) extends a substantial distance axially into the rotor (12).

Referring to claim 19 and claim 29, Shimizu teaches the cylindrical post (15a) engages a bearing (28) associated with the rotor (12).

Referring to claim 26, Shimizu teaches the DC rotating electrical machine comprising a motor and the related rotating machine is a hydraulic pump (figure 1).

16. Claims 20, 22 – 23, 30, and 32 - 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kato and Shimizu as applied to claim 19 above, and further in view of Buchanan, Jr. (U.S. Patent No. 5,644,180).

Referring to claim 20, 23, 30 and 33, the combination refs. of Kato and Shimizu teaches the claimed invention, except for the added limitation of the sleeve type bearing.

Buchanan teaches in his invention the bearing (50) associated with the rotor (40) is sleeve type bearing for supporting the other end of the rotary shaft (figure 2 –4).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the sleeve bearing for supporting the end of the shaft as taught by Buchanan. Doing so would provide a low cost bearing.

Referring to claim 22 and claim 32, Buchanan teaches the cylindrical post (52) is detachably connected to the second end closure (36, figure 2).

17. Claims 21, 24 – 25, 31, and 34 - 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kato and Shimizu as applied to claim 19 above, and further in view of Obara (U.S. Patent No. 6,246,137 B1).

Referring to claim 21, 24, 31, and claim 34, the combination refs. of Kato and Shimizu teaches the claimed invention, except for the added limitation of the anti friction bearing.

Obara teaches in his invention the bearing (3, 4) associated with the rotor (2) is anti friction bearing for supporting the rotary shaft.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the anti friction bearing for supporting the rotary shaft as taught by Obara. Doing so would provide a spindle motor with high accuracy of rotation.

Referring to claim 25 and claim 35, Shimizu teaches the cylindrical post (15a) is integrally formed with the second end closure (15).

Response to Amendment

18. This action is made non-final regarding to the Petition filed on 1/29/04.

19. The amendment filed on 3/22/03 had been entered.
 20. In view of the appeal brief filed on 7/03/03, PROSECUTION IS HEREBY REOPENED.
- A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Conclusion

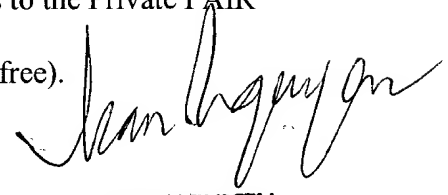
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834



TRAN NGUYEN
PRIMARY EXAMINER

LTP
April 15, 2004